



# Academic Press Dictionary of Science and Technology

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**Academic Press**

Harcourt Brace Jovanovich, Publishers

San Diego New York Boston London Sydney Tokyo Toronto



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**cumulonimbus** [kyoom'yə lō nim'bas] *Meteorology*. a principal cloud type composed of ice crystals and appearing as mountains or huge towers with smooth, fibrous, or striated and almost flattened upper portions, which often spread out in the form of an anvil at heights of at least 35,000 feet.

**cumulonimbus calvus** *Meteorology*. any highly developed cumulonimbus cloud that produces lightning, thunder, or hail, although the top shows no evidence of transformation into ice.

**cumulonimbus capillatus** *Meteorology*. a species of cumulonimbus cloud characterized by distinct cirriform parts in the upper portion, usually in the form of a disordered anvil plume with wispy extensions, and usually accompanied by a shower or thunderstorm.

**cumulus** [kyoom'yə las] *Meteorology*. a principal cloud type in the form of dense, detached elements with sharp nonfibrous outlines that develop vertically and appear as rising mounds, domes, or towers. The sunlit portions are brilliant white, and the bases are relatively dark and nearly horizontal; any precipitation usually occurs as showers. *Geochemistry*. an accumulation of mineral crystals that precipitated from a magma and settled to form layers without further modification.

**cumulus congestus** *Meteorology*. a species of cumulus cloud having sharp outlines and sometimes great vertical development, characterized by a cauliflower or tower aspect of large size or by high towers with tops of cloudy puffs. Also, TOWERING CUMULUS.

**cumulus humilis** *Meteorology*. a species of cumulus cloud characterized by a generally flattened appearance and a small vertical development due to restriction by a temperature inversion in the atmosphere. Also, FAIR-WEATHER CUMULUS.

**cumulus mediocris** *Meteorology*. a species of cumulus cloud with moderate vertical development and indistinct upper protuberances of a cauliflower-type aspect; it does not produce precipitation but often develops into cumulus congestus and cumulonimbus clouds.

**cumulus oophorus** *Histology*. a layer of follicular cells surrounding the developing oocyte in an ovarian follicle.

**CUN** *Aviation*. the airport code for Cancun, Mexico.

**cuneate** [kyoon'ē āt] *Biology*. fanning out from a pointed base; wedge-shaped, such as some leaves or insect wings. *Anatomy*. any of three wedge-shaped tarsal bones located in the instep of the foot or ankle.

**cuneiform** [kyoo'nē'ə fōrm] *Archaeology*. the earliest known system of writing, consisting of triangular markings pressed on a clay tablet; developed by the Sumerians in about 3000 BC. *Biology*. see CUNEATE. (From a Latin term meaning "wedge-shaped.")

**cunife** *Materials*. a copper-nickel-iron alloy with a high value of remnant magnetization and of coercive field, used where hard magnetic materials are required.

**Cunnersdorf twin law** *Crystallography*. a rarely occurring relationship between normal twin crystals in feldspar in which the twin plane is (201).

**Cunninghamellaceae** *Mycology*. a family of fungi belonging to the order Mucorales, which lives primarily off of nonliving organic matter in soil and dung.

**cunnius** *Anatomy*. the female pudendum; the vulva.

**Cunoniaceae** *Botany*. a family of strongly tanniferous trees and shrubs of the order Rosales that often accumulate aluminum and are characterized by opposite or sometimes whorled leaves, small and usually perfect flowers, and winged or hairy seeds.

**cup** any hollow, cylindrical component that is closed at one end; specific uses include: *Metrology*. a unit of capacity, equal to 8 fluid ounces or one-half pint. Also, **cupful**. *Mathematics*. a set union, denoted  $\cup$ , a Boolean operation. *Metallurgy*. a cylindrical shell with one open end, fabricated during the initial stages of a deep-drawing operation.

**cup-and-ball joint** *Geology*. see BALL-AND-SOCKET JOINT.

**cup anemometer** *Engineering*. a device that measures wind speed, composed of three or four vanes with cuplike structures on their ends; wind speed is determined by the rate at which the vanes revolve around a central shaft.

**cup barometer** *Engineering*. an instrument that measures atmospheric pressure, composed of a glass tube that sits in a cup, with both the tube and the cup containing mercury.

**cup-case thermometer** *Engineering*. a thermometer in which the material to be measured is held in a cup container into which the bulb of the thermometer is immersed.

**cup core** *Electromagnetism*. a core that serves to shield the exterior of a coil by enclosing it.

**cup crystal** *Hydrology*. a form of depth hoar having the shape of a hollow hexagonal cup with stepped surfaces.

**Cupedidae** *Invertebrate Zoology*. a family of coleopterans, the related beetles, in the suborder Archostemata.

**cupel** *Metallurgy*. a refractory container used in cupellation.

**cupellation** *Metallurgy*. a refining process for gold and silver, based on oxidation of the lead containing these precious metals.

**cupferron** *Organic Chemistry*.  $C_6H_5N(NO)ONH_2$ , creamy-white crystals, soluble in water and alcohol; melts at 164–165°C; used as an analytical reagent for separating copper and iron from metals.

**cup fracture** *Metallurgy*. a type of fracture that has a central depression. Also, **cup-and-cone fracture**.

**cup fungi** *Mycology*. fungi belonging to the class Discomycetes, are shaped like cups, especially those of the family Pezizales.

**cup lichens** *Botany*. any of several lichens with cup-shaped fruiting bodies or stalks, such as various species of *Cladonia*. Also, **cup mold**.

**cupola** [kyoop'ə lə] *Architecture*. a small dome raised on a circular base, often set atop a roof. *Metallurgy*. a furnace that is similar to a blast furnace, used especially to melt cast iron. *Geology*. a dome-shaped portion of the igneous rock of a batholith.

**cupola drop** *Metallurgy*. the residual material that is dropped from a cupola furnace after the molten metal is poured out.

**cupped pebble** *Geology*. a small sedimentary particle that has been hollowed out as a result of being subjected to solution.

**cup product** *Mathematics*. a product of elements of the deRham cohomology groups on a manifold  $M$ , denoted  $\cup$  and given by  $[\omega] \cup [\eta] = [\omega \wedge \eta]$ , where  $[\omega] \in H^k(M)$ ,  $[\eta] \in H^l(M)$ , and  $[\omega \wedge \eta] \in H^{k+l}(M)$ . It gives the deRham cohomology a ring structure. A corresponding product can be defined on the cohomology groups of any topological space.

**cupri-** a combining form meaning "copper," as in *cuprammonium*.

**cuprammonium rayon** *Textiles*. a rayon fabric made from regenerated cellulose treated in a solution of copper sulfate and ammonium.

**cupreine** *Organic Chemistry*.  $C_{19}H_{22}N_2O_2$ , a colorless crystalline solid, slightly soluble in water and soluble in alcohol; melts at 202°C; used in medicine. Also, HYDROXYCINCHONIDINE.

**cupreous** *Chemistry*. of, relating to, or containing copper.

**Cupressaceae** *Botany*. a family of evergreen, resiniferous shrubs and trees of the order Pinatae, characterized by small staminate and pistillate cones with opposite or whorled scales; the pistillate cones become woody, woody, or berrylike at maturity; includes species of junipers.

**cupri-** a combining form meaning "copper," as in *cuprite*.

**cupric** [koo'prik; kyoo'prik] *Chemistry*. 1. of or relating to copper, describing various compounds of copper, especially those in which the element has a valence of two.

**cupric acetate basic** *Organic Chemistry*.  $Cu(CH_3COO)_2 \cdot CuO$ , a blue or blue-green powder; slightly soluble in water and alcohol; used as a raw material to make Paris green. Also, BLUE VERDIGRIS, CUPRIC AERUGO.

**cupric arsenate** *Inorganic Chemistry*.  $Cu_3(AsO_4)_2 \cdot 4H_2O$ ,  $Cu_3H_2(AsO_4)_4 \cdot 2H_2O$ , a toxic bluish powder, insoluble in water and slightly soluble in dilute acids; used in insecticides and fungicides.

**cupric arsenite** *Inorganic Chemistry*.  $CuHASO_3$  or  $Cu_3(AsO_3)_2$ , a fine, toxic, light green powder, insoluble in water; used in pigments, and as a wood preservative. Also, COPPER ARSENITE, ORTHOARSENITE, SCHEEL'S GREEN.

**cupric bromide** *Inorganic Chemistry*.  $CuBr_2$ , a deliquescent powder or crystals, very soluble in water and soluble in alcohol and concentrated acids; melts at 498°C; used in photography, as a brominating agent in battery electrolytes, and as a wood preservative.

**cupric carbonate** *Inorganic Chemistry*.  $Cu_2(OH)_2CO_3$ , a toxic powder, soluble in acids and insoluble in water and alcohol; decomposes at 200°C; used in pigments, fireworks, and insecticides, and for various other industrial purposes. Also, (BASIC) COPPER CARBONATE, TIFICAL MALACHITE, MINERAL GREEN.

**cupric chloride** *Inorganic Chemistry*. 1.  $CuCl_2$ , a brownish-yellow granular powder, soluble in water; melts at 620°C and decomposes to cuprous chloride at 993°C. 2.  $CuCl_2 \cdot 2H_2O$ , the dihydrate form, a green deliquescent crystals; loses water at 100°C; has a wide variety of uses, as in fungicides, disinfectants, preservatives, and purifiers. Also, a mordant, catalyst, and pigment.

**cupric chromate** *Inorganic Chemistry*.  $CuCrO_4 \cdot 2CuO \cdot 2H_2O$ , a lowish-brown powder that is soluble in nitric acid and insoluble in water; loses its water at 260°C; a known carcinogen; used as a wood preservative, and fungicide.

**cupric cyanide** *Inorganic Chemistry*.  $Cu(CN)_2$ , a poisonous, yellowish-green powder, soluble in acids and alkalis and insoluble in water; used in copper electroplating.

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